

# Map (dictionary)

- store a Key-value pair  $(K, v)$

$find(K)$

$put(K, v)$

$erase(K)$

$at(K)$

$insert(5, C)$

$insert(10, D)$

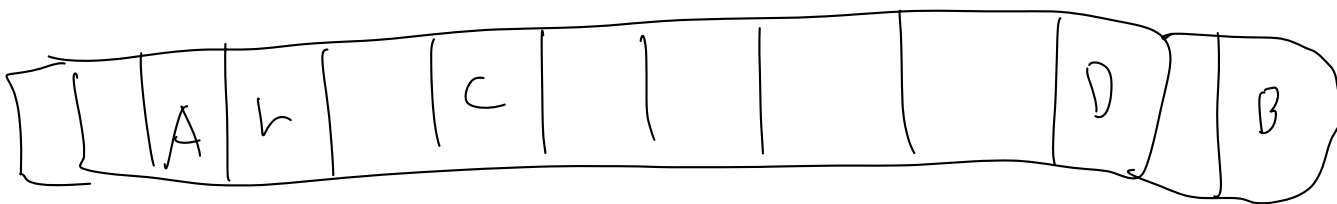
$insert(12, B)$

$insert(2, A)$

$at(5) = C$

$find(2) = end$

$\{(5, C), (10, D), (12, B), (2, A)\}$



$insert(10000, h) =$

# Hash Table

is Prime

$$h(x) = x \bmod N$$

$$h(10) \Rightarrow 10 \% 5 = 0 \Rightarrow H$$

(10, H)

$$\Rightarrow 10 \% 5 = 0$$

(7, I)

$$\Rightarrow 7 \% 5 = 2$$

(2, J)

$$\Rightarrow 2 \% 5 = 2$$

(5, K)

$$\Rightarrow 5 \% 5 = 0$$

